

ITSR Road/Rail Vehicle Workshop

V/Line Hi-Rail Project

Allen Fleckner

October 2012



Introduction

- Overview of RRV usage in V/Line
- Experiences – Recent RRV incident - Kyneton August 2012
- Explore weakness
- Look at strengths to improve RRV prognosis - V/Line Hi-Rail Project



Overview of V/Line RRVs

- A range owned / contractor RRVs operate on the V/Line regional network - Within occupation / On the running line under a track warrant or road / rail permission.
- By expectation some contractor vehicles operate under V/Line accreditation (e.g. weed spray).
- Generally contractors require accreditation for access to the V/Line network.
- The Regional Rail Link project will dramatically increase hi-rail usage over next 2 years – this will be a quantum shift from rural usage to a metropolitan working environment

Rail Guidance fitted to light vehicles (“Track Inspector vehicles”)



The Fleet includes 29 light road rail vehicles used for track inspection.

The rail gear requires regular inspection and adjustment (4 month cycle)

Rail Guidance fitted to Heavy Vehicles (“Gang Trucks”)



Hi rail Mobile Gang Truck

The RM Track maintenance group operates 18 'Mobile Gangs' through out the state each equipped with a set of engine powered tools

Night shift is becoming more common requiring better lighting and accessories.



Rail Guidance fitted to wheeled excavator



***CAT M315 Excavator
with rail guidance
wheels rotating hitch
and multi function grab***

Rail Guidance fitted to tracked excavator



A Komatsu 4 tonne excavator fitted with driven rail wheels and a Harsco Scarifier Head.

Concept and design by V/Line Plant in co-operation with Harrybilt

Rail Guidance fitted to tracked excavator



A Komatsu 4 tonne excavator fitted with driven rail wheels and a Harsco Tie Grip.

Concept and design by V/Line Plant in co-operation with Harrybilt

Rail Guidance fitted to loader back hoe



Recent experiences - Kyneton Occurrence August 2012

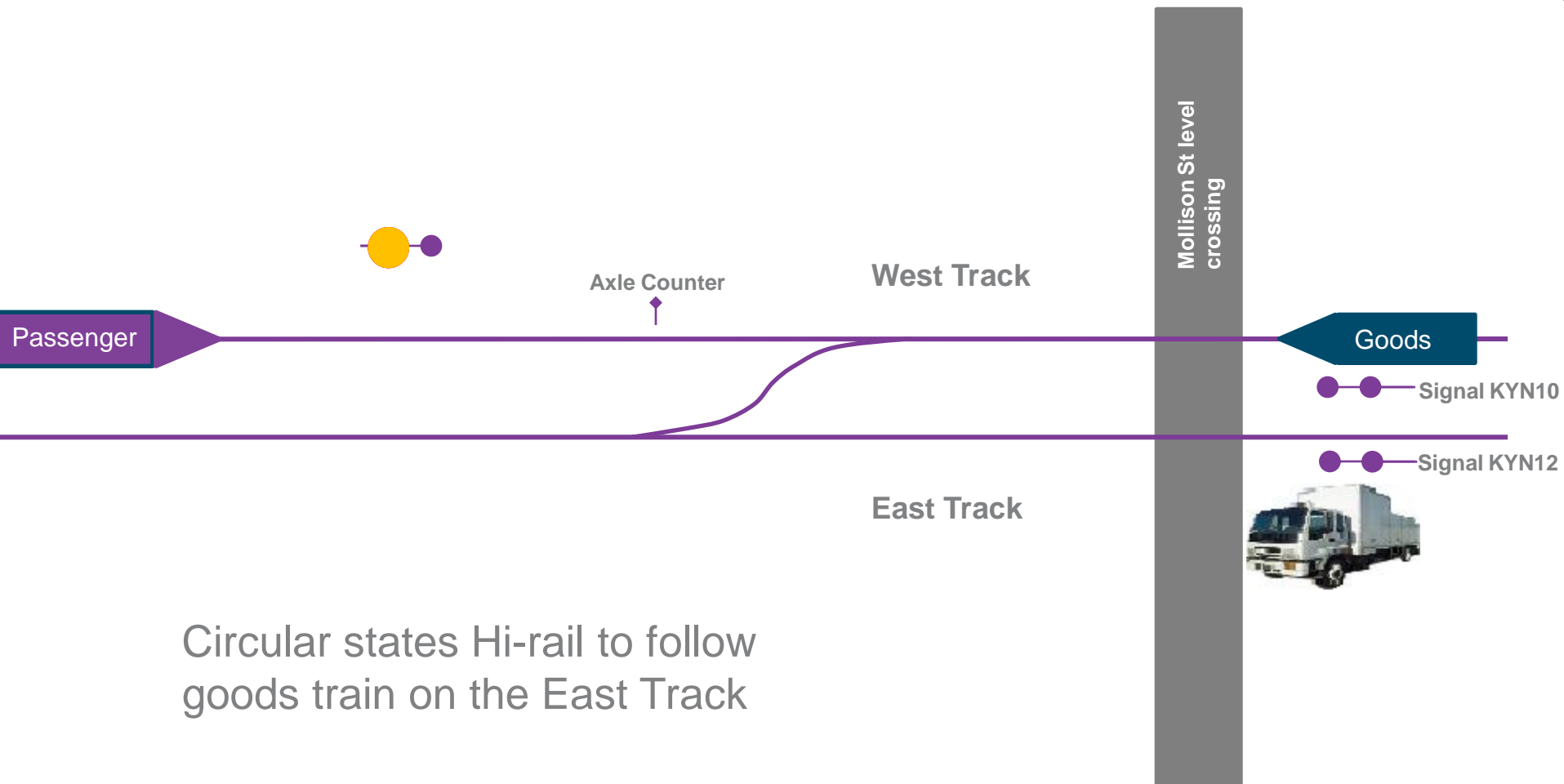
20th August 2012, after 11 pm

- Hi rail holding a Road / Rail permission circular to spray on the **east track**
- Initial findings suggest that the hi-rail driver did all the right things – e.g. got out of cab and checked signals etc. and after a goods train had went past he contacted Bendigo control panel to verify and asked to follow behind the goods train behind signal KYN10
- He then accessed the Bendigo corridor at Mollison St Kyneton level crossing with his Isuzu hi-rail weed spraying truck with a 5000 litre capacity (Contractor vehicle under V/Line accreditation)
- The hi-rail was signalled to travel towards Melbourne on the **West track** (bi-directional)
- At the same time V/Line passenger train 8055 was travelling towards Kyneton approaching on **west** track section 886 and signal M887 at nearly 160 km/h

Incident event sequence continued

- An axle counter in track section 887 detected the hi-rail causing the signal in front of the passenger train to revert to red – this is the only corridor of 5 fitted with axle counters.
- Axle counter set signal to stop – train stopped 80 m ahead of signal
- The passenger train stopped before the signal. The hi-rail vehicle reversed back to Mollison St to get off track allowing the passenger train to continue.
- When hi-rail reversed back over axle counter signal changed to yellow. Train started to proceed and got a verbal stop from the signaller.

Kyneton Occurrence Sequence



Preliminary incident findings

- Communications between the signaller and the hi-rail operator failed to identify or mitigate the error made in getting on the wrong track
- Hi-rail did not question erroneous signaller movement
- Weed spraying is a night activity – the current Rule Book does not cover night-time hi-rail operations
- No standards for hi-rail vehicles (in Victoria)
- No list of ‘approved vehicles’
- The ‘S’ circular procedure failed as communications tool

Response

- Track inspections using hi-rails on double lines in a number of locations have been replaced with train cab inspections
- Contractors must be accredited or be accompanied by a V/Line Supervisor
- The 'Hi-rail Project'

General incidents experienced in Victoria include:

- Near misses – particularly at HXP level crossings
- Separation of parts / plant and equipment being left on track after hand back
- SPADS – particularly with track machines / tampers / regulators etc.
- Derailment
- Safeworking breaches e.g. exceeding authority / failure to comply with Rule Book
 - Elphinstone tunnel 2004 incident
- Unattended hi-rail equipment within occupations

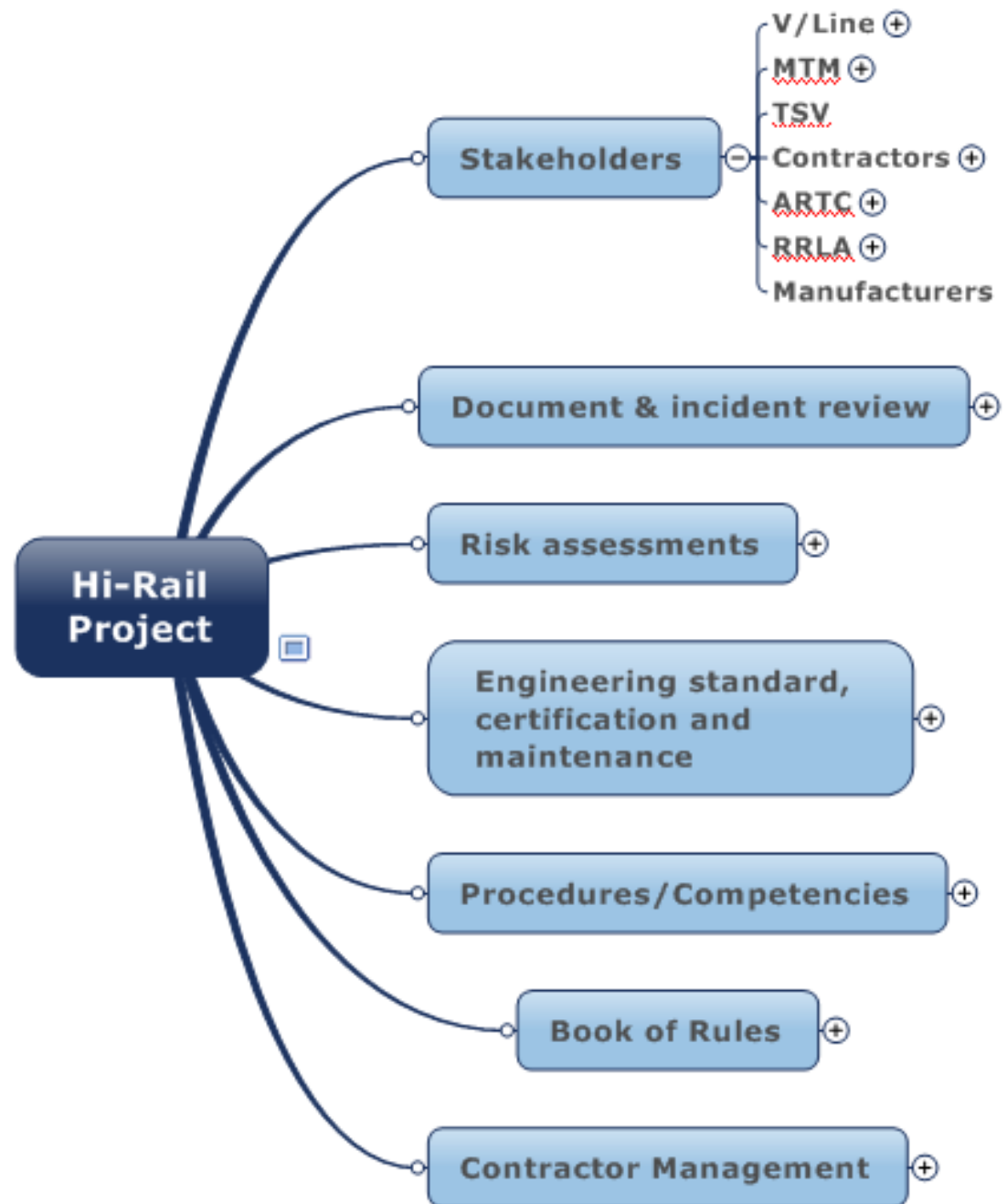
Weaknesses...

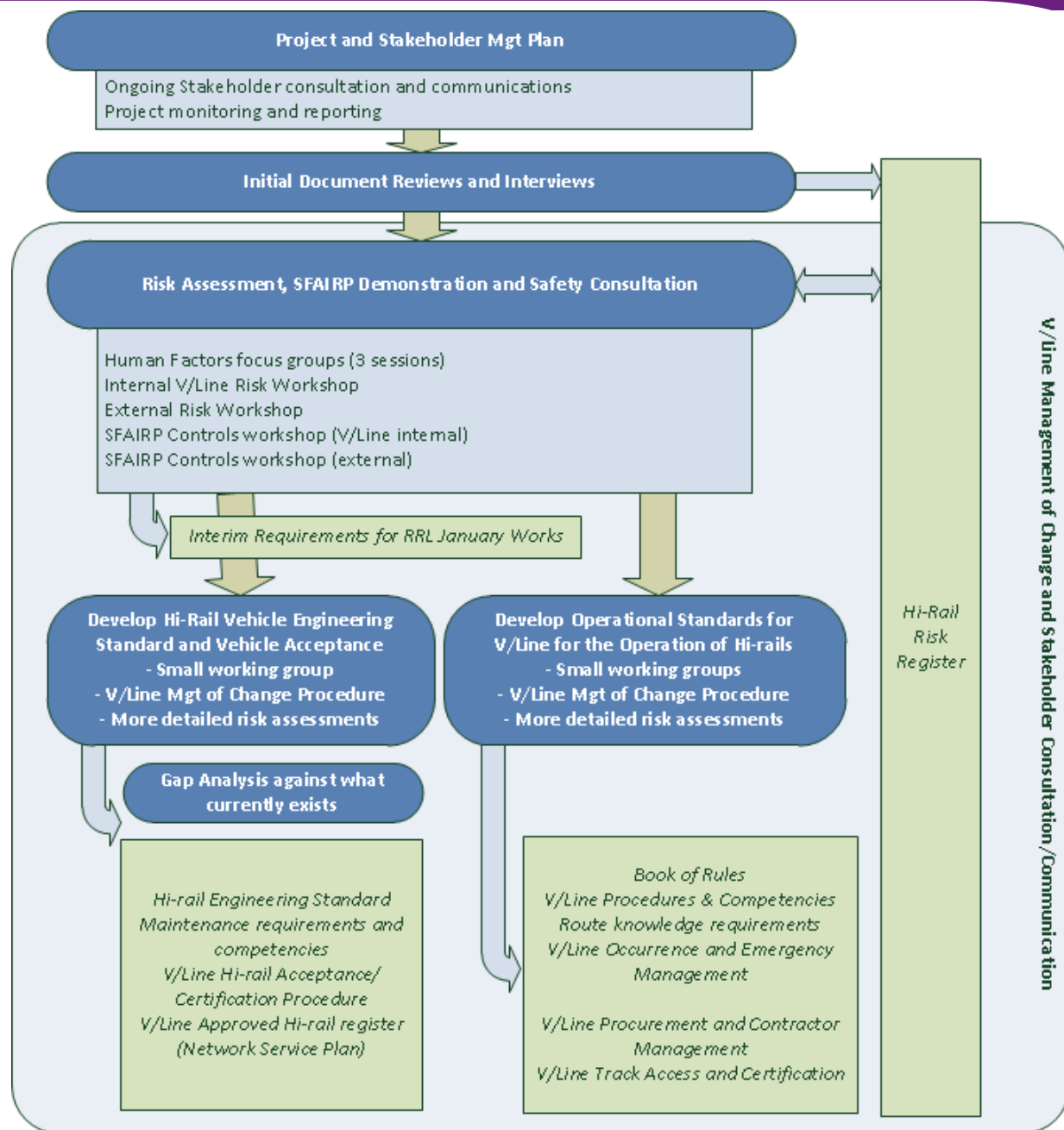
- There are not many system safety strengths within Victoria at present
- Track worker competency especially with a major rail project underway
 - Bread maker yesterday – track worker tomorrow
- Procurement / contractor management technical requirements
- Vehicle design integrity
- Contractor / in house staff hi rail safe use verification
- Record keeping
- Risk mitigation SFAIRP

Strengths - V/Line Hi-Rail Project

- V/Line and others have been reviewing various aspects of hi-rail operations for some time and funds have been made available to improve RRV specification and procedural operation:
- Project commenced in October 2012
- A risk-based and holistic review of hi-rail operations to develop, adopt or review:
 - An engineering standard and maintenance requirements
 - 'Certification' or approval process for plant
 - Book of rules related to hi-rails
 - Operating instructions and required competencies
- Consultative and collaborative approach with MTM and others.

Project Overview





Any Questions?

